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NATIONAL ATMOSPHERIC NUCLEAR TESTING COMPENSATION ACT OF 1990

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Mr. KENNEDY, from the Committee on Labor and Human Resources, submitted the following

REPORT

[To accompany S. 2466]

The Committee on Labor and Human Resources reports an original bill to amend title XXI of the Public Health Service Act to provide for the establishment of an atmospheric nuclear testing compensation program, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

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I. BILL SUMMARY

The bill would amend title XXI of the Public Health Service Act to establish an atmospheric nuclear testing compensation program among other purposes.

S543-3

SHORT TITLE

Act is cited as the National Atmospheric Nuclear Testing Compensation Act of 1990.

FINDINGS

Congress finds that civilian populations in Nevada, Utah, and Arizona were exposed to ionizing radiations emitted during the Government's above ground nuclear test program of the 1950's and 1960's. The health of civilians in these areas was therefore subjected to risk. Ionizing radiations released in underground uranium mines for the primary use of the defense nuclear establishment exposed miners to increased incidences of lung cancer and other respiratory diseases. Therefore, the United States should recognize and assume responsibility for partial restitution to individuals who were made ill by the defense nuclear establishment's programs and the Congress apologizes to those individuals. Many of the uranium miners who were exposed to massive doses of ionizing radiations were native Americans, primarily members of the Navajo nation for whom the United States has assumed trust responsibilities to provide comprehensive health care and other forms of assistance.

NATIONAL ATMOSPHERIC NUCLEAR TESTING COMPENSATION PROGRAM

Title XXI of the Public Health Service Act is amended by striking out the title heading and inserting "compensation programs" and by adding the new subtitle: "National Atmospheric Nuclear Testing Compensation Program."

GENERAL AUTHORITY CONCERNING RESEARCH AND EVALUATIONS

The Secretary of Health and Human Services will conduct a study and prepare a report to appropriate committees of Congress within no more than 180 days of enactment of the Act to contain: Evidence demonstrating the existence of diseases other than those listed in the Radiation Compensation Table under the Public Health Service Act; the existence of evidence demonstrating that respiratory diseases other than lung cancer are associated with the exposure of uranium miners to ionizing radiation; the existence of data supporting the conclusion that exposure of uranium miners to less than 200 working-level-months (WLM) of ionizing radiation is associated with respiratory disease other than lung cancer; updating results of the recently published National Academy of Sciences/National Research Council (BEIR V) report on the biological effects of ionizing radiation undertaken as a result of the Orphan Drug Act.

GENERAL AUTHORITY

The Secretary of Health will provide assistance to State health authorities in affected States in the development of preventive and rehabilitation programs to reduce risk of diseases resulting from exposure to ionizing radiations, or other disabilities associated with such exposure. The Secretary would also provide for public information and education for prevention and control of diseases associated with exposure to ionizing radiations.

PROGRAM ESTABLISHMENT

The Act establishes the National Atmospheric Nuclear Compensation Program under which compensation may be rendered to individuals for injuries or death proven to result from exposure to low-level ionizing radiations. Attorney obligations and ethical issues are spelled out.

PETITIONS FOR COMPENSATION

Under this subtitle, a petition to the Secretary of Health would trigger a proceeding for compensation with the United States Claims Court. The acceptance by an individual of compensation payment would be in full settlement against the United States defense nuclear programs as a result of exposure to ionizing radiations. Any individual, including a member of an American Indian tribe, may file a petition for compensation. An individual may file only one petition. A petition would contain all relevant information about circumstances of exposure to ionizing radiations and resulting disease or death. Complete medical record histories and autopsy reports will be provided by the petitioner. The clerk of the United States Claims Court will immediately forward the filed petition to the chief special master for assignment to a special master.

COURT JURISDICTION

The United States Claims Court special master will have jurisdiction over proceedings to determine if a petitioner is entitled to compensation and will assure prompt payment of any compensation awarded. The Secretary of Health shall be named as respondent and will participate in all proceedings. Not later than 30 days after receipt of any petition, the Secretary will publish a notice of petition in the Federal Register. The United States Claims Court will designate a special master who will hear cases in the 10th Circuit of the United States. The special master shall prepare and submit annually to the appropriate committees of Congress and to judges of the Claims Court a report concerning the number of petitions filed, their disposition, the dates on which injuries and deaths occurred, the length of time for the disposition of petitions, the cost of administering the Program, and recommendations for changes in the Program.

DETERMINATION OF ELIGIBILITY

Compensation will be awarded under the Program to a petitioner if the special master finds that the petitioner has provided proper information.

RADIATION COMPENSATION TABLE

The types of diseases incurred by exposure to ionizing radiations considered for eligibility of a petitioner are: Leukemia (other than chronic lymphocytic leukemia); multiple myeloma; and cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated).

COMPENSATION

Compensation awarded to a petitioner will be in the amount of $50,000. The same amount will be awarded to heirs of deceased petitioners. Compensation to uranium miners will be $100,000. The same amount will be awarded to heirs of deceased petitioners. Any attorney fees awarded will be paid out of the trust fund. An attorney fee shall not exceed 20 percent of the amount paid under any claim for compensation. Compensation will be paid in a lump sum not later than 30 days after judgment has passed. Payment of compensation will not be subject to the Internal Revenue Code of 1986 or any other provision of law. A compensation award shall not affect any claim against an insurance carrier. In the United States Treasury, there will be established a trust fund known as the "Atmospheric Nuclear Testing Compensation Trust Fund." A total sum of $100,000,000 will be authorized to be appropriated to the Fund. Amounts in the Fund will be invested and any proceeds from investment will become a part of the Fund. If all amounts in the Fund have not been expended by the end of a 20-year period, investments of amounts in the Fund will liquidate and all funds remaining will be deposited in the miscellaneous receipts account of the Treasury. There is authorized to be appropriated from the Fund such sums as may be necessary in each fiscal year until termination of the Fund.

TIME FOR FILING OF CLAIMS

A claim shall be barred unless the claim is filed not later than 2 years after the date of enactment and not later than 2 years after the date on which the specified disease resulting from exposure to ionizing radiation from nuclear testing is discovered.

DEFINITIONS

Affected areas, including counties in Nevada, Arizona, and Utah are spelled out. Definitions of Indian tribe, legal representative, program, trust fund, and specified disease are also spelled out.

II. BACKGROUND AND NEED FOR LEGISLATION

National Atmospheric Nuclear Testing Compensation Act of 1990: Draft Legislative History, Justifications, and Summary of Provisions

INTRODUCTION

The National Atmospheric Nuclear Testing Compensation Act of 1990 was drafted to compensate civilians who have incurred lung cancer or other diseases as a result of their exposure to nuclear fallout from open-air bomb tests or occupational exposure to ionizing radiations in uranium mines.

EARLY HISTORY OF FEDERAL INVOLVEMENT IN IONIZING RADIATION RESEARCH

Scientific research in the field of ionizing radiation was pursued primarily in the private sector following the discoveries of William Rentgen in 1895 and the later advent of World War II. Following

development of the atomic bomb by the United States in the early 1940s, the Federal Government became increasingly involved in the development, application, regulation, and control of ionizing radiation.[1]

Prior to that development, major interest in ionizing radiation was centered in medical, academic, and industrial sectors where much of the research and development in ionizing radiation was pursued. Since there was early evidence of radiation hazards, such as acute skin burns and later, skin tumors, scientific interest in radiological protection was stimulated. This led to the establishment in 1928 of the International Commission on Radiological Protection (ICRP). That same year, an American counterpart organization was created, the Advisory Committee on X-ray and Radiation Protection, which became chartered by the Congress as the National Council on Radiation Protection and Measurements (NCRP) in 1964.

The first use of an atomic weapon occurred in 1945. Soon after that event, the Congress enacted the Atomic Energy Act of 1946 (P.L. 585). Section 1(b) of the Act established five programs to assist and foster research; control scientific and technical information; develop a Federal research program; control Federal production, ownership, and use of radioactive materials; and develop a program of administration. To achieve these goals, the Act created the Atomic Energy Commission (AEC).

A further refinement of these concepts was embodied in the Atomic Energy Act of 1954 (P.L. 83–70), which required the AEC to conduct research and development for both military and peaceful uses of atomic energy.

In 1947, the Atomic Bomb Casualty Commission (ABCC) was formed within the National Academy of Sciences (NAS). First supported by the United States military occupational forces, the Commission received funds from AEC beginning in 1949. The activity has continued to date under the auspices of the successors to AEC, the Energy Research and Development Agency (ERDA), and most recently, the Department of Energy (DOE). On April 1, 1975, the program was transformed from a project directed and funded entirely by the United States to a binational study under joint Japanese and American direction and funding. It was renamed the Radiation Effects Research Foundation (RERF) and remains under NAS.

Independent of governmental initiatives and in response to nuclear weapons testing and public concern about the potential effects of ionizing radiations on human populations, the NAS, with support from the Rockefeller Foundation, formed the Committee on Biological Effects of Atomic Radiation (BEAR) to study the subject. The BEAR Committee issued a series of reports between 1956 and 1963.

In 1955, the General Assembly of the United Nations established the United Nations Scientific Committee on the Effects of Atomic radiation (UNSCEAR). Periodic reports by this group have provid-

[1] NAS/NAE/IOM. Committee on Federal Research on the Biological and Health Effects of Ionizing Radiation. Federal Research on the Biological and Health Effects of Ionizing Radiation. National Academy of Science Press, Washington, D.C., p. 138–163.

ed reviews of the worldwide scientific information and opinion concerning the exposure of humans to atomic radiation.

In 1959, the Federal Radiation Council (FRC) was created within the Executive Office of the President to provide a Federal policy on radiation exposure of humans (P.L. 86–373). The same bill that created the FRC also provided that the AEC could enter into agreements with State governments, authorizing them to regulate radioactive materials for the protection of the public health and safety. The provision also curtailed some of the regulatory authority of the AEC.

In February 1970, the FRC asked the NAS to undertake a complete review and evaluation of existing knowledge concerning radiation exposure of human populations. The product of that study was the 1972 report of the Committee on the Biological Effects of Ionizing Radiation (BEIR–I report).

The Environmental Protection Agency (EPA) was established in 1970 by the President's Reorganization Plan No. 3. Among the various functions assigned to EPA were those of the FRC and the environmental standard functions of the AEC.

The Energy Reorganization Act of 1974 (P.L. 93–438) dissolved the AEC entirely and created two new agencies to assume the AEC's remaining functions. The Nuclear Regulatory Commission (NRC), which assumed the AEC licensing and remaining regulatory functions, and the Energy Research and Development Administration (ERDA) which was charged with conducting research and development for both military and peaceful uses of atomic energy.

Finally, the Department of Energy Organization Act of 1977 (P.L. 95–91) created the Department of Energy (DOE) and transferred to it the responsibilities of ERDA. Under Title III, Section 301(a) of the Act, DOE was given responsibility for developing and producing nuclear weapons systems for the DOD in facilities owned by DOE but operated by private industry and universities. DOE was further charged with developing peaceful applications of nuclear energy and technology, especially power sources, in cooperation with private companies, and radioisotopes for medical and industrial applications, primarily within the national laboratories originally established by the AEC.

Recent History: Creation and Mandate of the Federal Committee on the Biological Effects of Ionizing Radiation

In his testimony to the committee during a hearing on the Radiation Exposure Compensation Act of 1981, Dr. Edward Brandt, Jr., Assistant Secretary for Health, Department of Health and Human Services, traced the recent history of Federal efforts to investigate research into the biological effects of the ionizing radiations, including radiation from nuclear weapons fallout. His testimony is provided in abbreviated form below.[2]

> Responding to a need to coordinate Federal radiation research policies, the President in 1978 instructed the Secre-

[2] U.S. Congress. Senate. Committee on Labor and Human Resources. Radiation Exposure Compensation Act of 1981. Hearing. Oct. 27, 1981. 97th Cong., 1st Sess. Washington, U.S. Govt. Print. Off., 1982. p. 15–24.

tary of HEW to establish an interagency task force to assess a number of issues on the health effects of ionizing radiation. The report of the task force, released in June 1979, represents one of the most comprehensive examinations ever undertaken of a special group of issues related to ionizing radiation.

Coincident with the efforts of the task force was an increase in congressional activity, leading to the passage of the Biomedical Research Extension Act of 1978 (P.L. 95-622).

Under this law the Congress directed the Secretary of HEW (1) to establish a comprehensive program of research into the biological effects of low-level ionizing radiation, employing grants, contracts, and/or direct research, and (2) to undertake a comprehensive review of Federal programs of research into the biological effects of ionizing radiation.

To meet the provisions of this law, the Secretary took the following actions: (1) assigned to the National Cancer Institute the responsibility for establishing a low-level research program; and (2) chartered the Committee on Federal Research into the Biological Effects of Ionizing Radiation. Dr. Donald S. Frederikson, then Director of the National Institutes of Health, served as Chairman. The Committee included representatives of all Federal departments and agencies supporting radiation research or having relevant regulatory functions. The Committee's first meeting was held on March 2, 1979, and the last of its eight meetings was on February 26, 1980, after which it was superseded by the presidentially mandated Interagency Radiation Research Committee (IRRC).

The former Committee handled a number of major assignments and issued several reports. For example, it considered possible followup studies to detect any radiation-induced health effects on the general population in the vicinity of Three Mile Island. Two Committee reports were issued in August 1979. The first concerned followup studies on possible biological and health effects of the accident at Three Mile Island, and the second evaluated a proposed study of chromosome changes in the population living adjacent to the reactor. The Committee found that a scientific or health effects study would not be feasible in either case, because of the very low radiation exposures involved.

Another major responsibility of the Committee concerned studies of possible health effects of radiation from nuclear weapons testing in the tri-State area of Arizona, Nevada, and Utah. In November 1979 the Committee issued a *Report on a Proposal to Establish a Tri-State Commission to Study Possible Health Effects of radiation from Nuclear Weapons Testing.* The Committee found the arguments to establish a commission unconvincing, but did make constructive recommendations regarding the need for scientific evaluation of possible health effects of the weapons testing program.

The initial charge to the Committee to "conduct a comprehensive review of Federal programs of research into the biological effects of ionizing radiation"? was implemented through a contract with the National Academy of Sciences. Statements in the *Congressional Record* of October 14, 1978, relating to P.L. 95–622, further charged the Committee to devleop a comprehensive Federal strategy for research into the biological effects of ionizing radiation. When the IRRC replaced the Federal Committee on Research into the Biological Effects of Ionizing Radiation, it inherited these key responsibilities.

CREATION AND MANDATE OF THE INTERAGENCY RADIATION RESEARCH COMMITTEE

On February 21, 1980, the President instructed the Secretary of HEW to establish an Interagency radiation Research Committee, with responsibility for coordinating the planning, implementation, and evaluation of a Federal radiation research program on the biological effects of ionizing radiation, and for ensuring that this program is carried out efficiently, objectively, openly, and in accordance with the highest scientific standards. At its first meeting, in June 1980, the IRRC accepted two additional tasks:

(1) To review a research proposal from the University of Utah, the University of Nevada, and the Arizona Department of Health Services to examine the possible health effects of radioactive fallout from a nuclear weapons testing program on the civilian population of those three States; and

(2) To review the *Report of the Panel of Experts on the Archive of PHS Documents Relating to Effects of Nuclear Weapons Testing on Health* and evaluate its recommendations, as requested by the Secretary of HEW (HHS).

As mentioned above, the HEW-mandated Committee had reviewed a request from the Governors of Arizona, Nevada, and Utah for Federal funds to create a Tri-State Commission and issued its report on this matter in November 1979. The proposal was disapproved, but support was expressed for the concept of interim funding so that full-scale research grant proposals might be developed. Interim funding was never requested, but three research proposals were developed and referred to the IRRC for evaluation in April 1980.

To evaluate the three grant proposals, Dr. Fredrickson created an ad hoc Technical-Merit Review Subcommittee. This group was instructed to review the proposals and make recommendations for action to the Committee as a whole. The subcommittee convened a special study section, comprising 19 non-Federal and; 6 Federal members, and selected a chairman from among the non-Federal members. The special study section met at NIH for two days in July 1980 and unanimously recommended disapproval of

the grant proposals as written. The subcommittee reviewed the study section report and then sought to determine whether there were any relevant Federal research needs or current activities in which scientists from the tri-State area could participate as grantees or contractors. The subcommittee then recommended that the three proposals be disapproved as written, and the full Committee concurred. The Committee, in addition approved consideration of specific investigations of issues related to radioactive fallout and relevant to the missions of agencies on the committee, in the general categories of new techniques for radioactive does assessment and studies on health effects, primarily cancer.

The Committee report and the documents that the Committee considered in reviewing these proposals were submitted for the record. Five agencies agreed to support research projects relevant to the original grant request: the Department of Defense, Department of Energy, Veterans Administration, Environmental Protection Agency, and Department of Health and Human Services (National Institutes of Health). A list of those projects appears in the report. Representatives from each of the agencies were present and provided information concerning the status of these projects.

The Committee also considered recommendations in the PHS Panel report *Effects of Nuclear Weapons Testing on Health*. This report arose from a project initiated by HEW in February 1979 to search Public Health Service files for any previously unrecognized or unpublished documents concerning the potential health effects of nuclear weapons tests conducted in the 1950s or early '60s. A five-member public panel conducted a comprehensive review of all 11,000 pertinent papers culled from more than 400,000 documents relating to PHS activities during the period of interest, 1950–70. The Panel's report was transmitted to the Secretary and released to the public on May 28, 1980. The Secretary then forwarded the report to the IRRC, requesting a review of the four recommendations made by the Committee:

(1) That ways be considered and designed to reactivate Public Health Service studies on the possible increase of thyroid cancer, leukemia, and other cancers as a result of nuclear weapons testing;

(2) That further efforts be made to develop retrospective dose assessments for pertinent offsite populations, for use in future epidemiologic studies;

(3) That the PHS archives, along with any related documents from other Federal agencies, be assembled in a convenient place and made available to the public; and

(4) That the Federal Government issue a "white paper" describing all activities related to the evaluation of health effects of nuclear weapons testing from the time of the initial explosion in 1945 to the present.

Recommendations 1 and 2 have been discussed above and by the extensive dose reassessment program conducted by the DOE, already under way. Recommendation 3 has been met by DOE's establishment of the Coordination and Information Center for offsite fallout data, located in Las Vegas, Nevada. In addition, the PHS archives are available at the Food and Drug Administration. Recommendation 4, the Committee believes, has been accomplished through publication of the monograph entitled "Nuclear Weapon Testing and Studies Related to Health Effects: A Historical Summary," written by Richard G. Hewlett, former historian of the Atomic Energy Commission and the Department of Energy. The Committee perceived that this document, included as a part of the Committee report, not only provided a perspective from which to consider the research proposals but also was responsive to the PHS Panel recommendations regarding the history of nuclear weapons testing, with focus on health-related studies in the tri-State area.

FEDERAL RADIATION RESEARCH STRATEGY

Over a two-year period, the HEW-mandated Committee and its successor, the interagency Radiation research Committee, had two sitting subcommittees. One developed a Federal radiation research strategy; the other compiled the documents for a study conducted by the National Academy of Sciences on existing Federal research into the biological and health effects of ionizing radiation. The research strategy developed by the subcommittee resulted from a variety of fact-finding activities, including a two-day public meeting at NIH in March 1980. A draft of the strategy was reviewed by the National Academy of Sciences, rewritten extensively, and finally approved by the IRRC. The final document, entitled *Federal Strategy for Research into the Biological Effects of Ionizing Radiation,* was transmitted to the Congress by Secretary Schweiker on June 30, 1981. Concomitantly, the Academy report—*Federal Research on the Biological and Health Effects of Ionizing Radiation* (FREIR)—was transmitted by the Secretary to the Congress.

The recommendations made the Academy pertain to both the management and content of research. The Federal Strategy document reviews the needs and opportunities for advancing scientific knowledge in radiation physics, radiation chemistry, radiation measurement, molecular and cell biology, animal research, epidemiology and the health sciences, and the characterization of sources of human exposure to ionizing radiation.

The strategy document recommends no major shifts in the direction of current Federal programs or in funding percentages, but does present specific recommendations in each area.

Precedents and Justifications for Legislation

Over the past ten years, several hearings have been held by the Senate on the issue of radiation compensation.

As noted in several hearing testimonies, the University of Utah pioneered the early research in this area. Dr. Joseph Lyon of the University of Utah published in the *New England Journal of Medicine* his study of childhood leukemias associated with fallout from nuclear weapon tests.[3] In that study, he concluded that a significant excess of leukemia occurred in children up to 14 years of age living in Utah between 1959 and 1967. This excess was concentrated in the cohort of children born between 1951 and 1958, and was most pronounced in those residing in counties receiving high fallout.

In another preliminary study, Caldwell et al found indications that nine cases of leukemia occurred among 3,224 men who participated in military maneuvers during the 1957 test explosion, "Smoky." [4] This figure represented a statistically significant increase over the expected incidence of 3.5 cases. At time of diagnosis, patient ages ranged from 21–60 years (41.8 yr mean), and the interval from the time of the nuclear test to diagnosis ranged from two to 19 years (14.2 years mean). Mean badge gamma dose for the entire Smoky cohort was 466.2 millirem (mrem).

During the 1947–1961 period uranium miners were exposed to substantially higher levels of radiation than they are today, as shown in table 1.[5]

Working level exposure ranged from a high of 10.0 working level (WL) to a 3.0 WL average in 1961. By 1971, the average had dropped nearly ten-fold to 0.31 WL. In 1980, the average was about 0.13 WL. Thus, for most of the 1947–1961 period, uranium miners were exposed to levels of radiation well above the present mandatory of 4 WL annually. Only in 1961 was the level slightly below the mandatory limit.

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[3] Lyon, J. et al. Childhood Leukemia Associated with Fallout from Nuclear Testing. NEJM, v. 300, no. 8, Feb. 22, 1979. p. 397–462.

[4] Caldwell, G. et al. Leukemia Among Participants in Military Maneuvers at a Nuclear Bomb Test. JAMA, v. 244, no. 14, Oct. 3, 1980. p. 1575–1578.

[5] U.S. Congress. Senate. Committee on Labor and Human Resources. Radiation Exposure Compensation Act of 1981. Hearing, op. cit. p. 300.

TABLE 1.—AVERAGE CONCENTRATIONS OF RADON DAUGHTERS IN WORKING LEVELS TO WHICH URANIUM MINERS WERE EXPOSED BY YEARS [1]

Year	Average WL	Year	Average WL
1937	15.0	1959	6.5
1938	15.0	1960	5.6
1939	15.0	1961	3.0
1940	15.0	1962	3.0
1941	15.0	1963	3.0
1942	15.0	1964	2.3
1943	15.0	1965	2.3
1944	14.0	1966	2.1
1945	13.0	1967	1.4
1946	12.0	1968	.75
1947	10.0	1969	.75
1948	9.5	1970	.38
1949	9.2	1971	.31
1950	9.0	1972	.20
1951	8.7	1973	.15
1952	8.5	1974	.16
1953	8.3	1975	.15
1954	8.0	1976	.15
1955	7.7	1977	.14
1956	7.4	1978	.14
1957	7.0	1979	.15
1958	6.8	1980	[2].13

[1] Sources: 1937–66 U.S. Public Health Service; 1967–69 U.S. Bureau of Mines; and 1970–80 Atomic Industrial Forum.
[2] Preliminary.

In 1981, the Federal Government filed a memorandum opposing an attempt by southern Utah sheepmen to reopen an unsuccessful fallout claims suit decided in a U.S. District Court in 1956. The case was a consolidation of seven suits by stockmen who had lost thousands of animals after they had wintered near the Nevada test site during a series of nuclear weapons tests in the early 1950s. Many sheep died on the trail back to Cedar City, more died in Utah, and thousands of lambs were born dead or deformed. However, the U.S. District Court ruled in 1956 that the stockmen had failed to prove their case.[6]

> In furtherance of their contentions, plaintiffs refer the court to congressional reports and transcripts of testimony. Those documents, if unchallenged, at most suggest that today there is an additional witness who might testify in support of plaintiff's contentions and that plaintiffs with the benefit of hindsight and additional experience might advance a stronger, though still not convincing, argument in support of their position. Regardless of the credence given to plaintiff's allegations, they fall far short of the requirements established by rule 60 of the Federal Rules of Civil Procedure for the granting of relief sought.[7]

In October 1984, the Veteran's Dioxin and Radiation Exposure Act (P.L. 98–542; H.R. 1961) was enacted. The purpose of the Act is to ensure that Veterans Administration disability compensation is

[6] Deseret News. May 5–6, 1981. p. 4B
[7] Ibid.

provided to all ill or disabled veterans who were exposed to ionizing radiations in connection with atmospheric nuclear tests or in connection with the American occupation of Nagasaki and Hiroshima, Japan. All disabilities arising after that service that are connected, based on scientific and medical evidence, to such service qualify veterans for compensation. The Veterans Administration dependency and indemnity compensation is provided to survivors of those veterans for all deaths resulting from exposure to ionizing radiations.

Need for Legislation

The proposed National Atmospheric Nuclear Testing Compensation Act of 1990 would be the first comprehensive legislation of its kind to provide civilian populations with compensation as a result of their exposure to ionizing radiations from open-air atomic bomb tests or from occupational exposure to uranium mine radiations. There are several compelling justifications for the proposed legislation, among them:

1. Fallout from the Government's open air nuclear tests in Nevada exposed civilians who lived downwind from the tests in Nevada, Utah, and Arizona to ionizing radiations that caused an excess of cancers among those citizens according to epidemiological studies;
2. The health of civilians in the affected areas mentioned above were put at a health risk to serve the national security and defense of the United States.
3. Ionizing radiations released in underground uranium mines that served the nuclear weapons production program of the United States exposed miners, including American Indians, to large doses of radiation that caused increased incidence of lung cancer and other diseases;
4. Because civilian popu tions, including uranium miners, incurred excess cancers and other disabling and fatal diseases in service of the national security of the United States, they like veterans in our armed services, deserve compensation for their sacrifices.
5. Recent research in the scientific community as well as epidemiological studies conducted on large civilian populations exposed inadvertently or occupationally to ionizing radiations suggest that low-levels of these radiations may be more dangerous to human health than heretofore believed.

III. THE BILL AS REPORTED

A BILL to amend title XXI of the Public Health Service Act to provide for the establishment of an atmospheric nuclear testing compensation program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Atmospheric Nuclear Testing Compensation Act of 1990".

SEC. 2. FINDINGS.

Congress finds that—

(1) fallout emitted during the Government's above-ground nuclear tests in Nevada exposed civilians who lived in the downwind affected area in Nevada, Utah, and Arizona to radiation that generated an excess of cancers among these civilians;

(2) the health of the civilians who were unwitting participants in these tests was put at risk to serve national security interests of the United States;

(3) radiation released in underground uranium mines that were providing uranium for the primary use and benefit of the nuclear weapons program of the United States Government exposed miners to massive doses of radiation that produced an epidemic of lung cancer and respiratory diseases among these miners;

(4) the United States should recognize and assume equitable and compassionate responsibility for the damages sustained by these civilians and provides herewith a procedure to make partial restitution to these individuals for the burdens they have borne for the Nation as a whole;

(5) the lives and health of uranium miners and of innocent citizens who lived downwind from the Nevada tests were sacrificed to serve the national security interests of the United States, and Congress apologizes to these citizens and their families on behalf of the Nation; and

(6) many of the uranium miners who were exposed to massive doses of radiation were Native Americans (primarily members of the Navajo Nation), for whom the United States has assumed trust responsibilities to provide care and assistance. including comprehensive health care.

SEC. 3. NATIONAL ATMOSPHERIC NUCLEAR TESTING COMPENSATION PROGRAM.

Title XXI of the Public Health Service Act (42 U.S.C. 300aa-1 et seq.) is amended—

(1) by striking out the title heading and inserting in lieu thereof "COMPENSATION PROGRAMS"; and

(2) by adding at the end thereof the following new subtitle:

"Subtitle 3—National Atmospheric Nuclear Testing Compensation Program

"SEC. 2141. GENERAL AUTHORITY CONCERNING RESEARCH AND EVALUATIONS.

Not later than 180 days after the date of enactment of this subtitle, the Secretary shall conduct a study and prepare and submit, to the appropriate Committees of Congress, a report that shall contain—

"(1) the existence of evidence demonstrating that diseases other than those listed in the Radiation Compensation Table in section 2147 are associated with exposure to low levels of ionizing radiation;

"(2) the existence of evidence demonstrating that respiratory diseases other than lung cancer, fibrosis, radiation pneumoni-

tis, or cor pulmonale related to pulmonary fibrosis are associated with radiation exposure of uranium miners as described in section 2144(c)(1)(B)(i);

"(3) the existence of evidence or data supporting a conclusion that exposure of uranium miners to less than 200 working level months of radiation is associated with lung cancers or other serious respiratory diseases; and

"(4) updates to the results of the study undertaken under section 7 of the Orphan Drug Act (42 U.S.C. 241 note) required as a result of the BIER V report prepared by the National Research Counsel.

"SEC. 2142. GENERAL AUTHORITY RESPECTING TECHNICAL ASSISTANCE AND INFORMATION.

"(a) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to State health authorities in Arizona, Nevada, Utah, Colorado and New Mexico in the development of preventive treatments and appropriate rehabilitation programs to reduce the risk of diseases resulting from low levels of radiation exposure or subsequent disabilities associated with such exposure.

"(b) INFORMATION.—The Secretary shall provide for the establishment of public information and education programs for the prevention and control of diseases resulting from exposure to low levels of radiation by individuals described in section 2144(c).

"SEC. 2143. ESTABLISHMENT OF PROGRAM.

"(a) PROGRAM ESTABLISHED.—There is established the National Atmospheric Nuclear Testing Compensation Program under which compensation may be paid for injuries or death resulting from the exposure of an individual to radiation from nuclear testing and uranium mining.

"(b) ATTORNEY'S OBLIGATION.—It shall be the ethical obligation of any attorney who is consulted by an individual with respect to injury or death resulting from exposure to radiation from nuclear testing or uranium mining to advise such individual that compensation may be available under the program for such injury or death.

"SEC. 2144. PETITIONS FOR COMPENSATION.

"(a) GENERAL RULE.—

"(1) INITIATION.—A proceeding for compensation under the Program for injury or death resulting from exposure to radiation from nuclear testing or uranium mining shall be initiated by service upon the Secretary and the filing of a petition containing the matter required by subsection (c) with the United States Claims Court.

"(2) PAYMENT IN FULL SETTLEMENT OF CLAIMS AGAINST THE UNITED STATES.—The acceptance by an individual of payment under this section shall be in full settlement of all claims of, or on behalf of, that individual against the United States or against any person with respect to the performance of a contract with the United States that may arise out of the exposure of the individual to radiation as described in subsection (c).

"(b) PETITIONERS.—

"(1) FILING OF PETITION.—Any individual, including a member of an Indian tribe, who has sustained a injury resulting from exposure to radiation from nuclear testing or uranium mining, the legal representative of such individual (as determined appropriate under State law) if such individual is a minor or is disabled, or the legal representative of any individual who died as the result of such exposure, if the individual meets the requirements of subsection (c)(1), may file a petition for compensation under the Program.

"(2) LIMITATION ON NUMBER.—An individual may file only one petition under this subtitle.

"(c) PETITION CONTENT.—A petition for compensation under the Program for an injury or death resulting from exposure to radiation from nuclear testing or uranium mining shall contain—

"(1) an affidavit, and supporting documentation, demonstrating that the individual who suffered such injury or who died—

"(A)(i) resided in the affected area, as defined in section 2151, for a period of at least 1 year during the period beginning on January 21, 1951, and ending on October 31, 1958, or resided in the affected area during the period beginning on June 30, 1962, and ending on July 31, 1962; and

"(ii) contracted a disease as described in the Radiation Compensation Table in section 2147, resulting in personal injury or death; or

"(B)(i) was employed in a uranium mine located in Colorado, New Mexico, Arizona, or Utah during the period beginning January 1, 1947, and ending on December 31, 1971;

"(ii) was exposed to 200 or more working level months of radiation as defined by the Secretary; and

"(iii) developed lung cancer or other serious respiratory diseases as defined by the Secretary; and

"(2) all available relevant medical records (including autopsy reports, if any) relating to the individual who suffered such injury or who died from the exposure to radiation from nuclear testing or uranium mining and an identification of any unavailable records known to the petitioner and the reasons for their unavailability.

"(d) SPECIAL MASTER.—The clerk of the United States Claims Court shall immediately forward the filed petition to the chief special master for assignment to a special master under section 2145(c)(1).

"SEC. 2145. COURT JURISDICTION.

"(a) GENERAL RULE.—The United States Claims Court special masters shall, in accordance with this section, have jurisdiction—

"(1) over proceedings to determine if a petitioner under section 2144 is entitled to compensation under the Program; and

"(2) to issue and enforce such orders as the court determines necessary to assure the prompt payment of any compensation awarded.

"(b) PARTIES.—

"(1) SECRETARY.—The Secretary shall be named as the respondent and shall participate in all proceedings brought by

the filing of a petition under section 2144(b). Except as provided in paragraph (2), no other individual may intervene in any such proceeding.

"(2) NOTICE OF FILING.—Not later than 30 days after the Secretary receives service of any petition filed under section 2144 the Secretary shall publish notice of such petition in the Federal Register. The special master designated with respect to such petition under subsection (c) shall afford all interested individuals an opportunity to submit relevant, written information—

"(A) relating to the existence of the evidence described in section 2144(c)(1)(A); or

"(B) relating to any allegation in a petition with respect to the matters described in section 2144(c)(1)(B).

"(c) ADDITIONAL SPECIAL MASTER.—

"(1) IN GENERAL.—The United States Claims Court shall designate a special master who shall hear cases in the 10th circuit of the United States during the pendency of cases under this subtitle, but in no event later than 4 years after the date of enactment of this subtitle. The provisions of section 2112(c)(2) shall apply to the special master designated under this subsection.

"(2) REPORTS.—The special master designated under paragraph (1) shall prepare and submit annually, to the appropriate Committees of Congress and the judges of the United States Claims Court, a report concerning the number of petitions filed under section 2144 and their disposition, the dates on which the injuries and deaths resulting from exposure to radiation from nuclear testing or uranium mining for which the petitions were filed occurred, the types and amounts of awards, the length of time for the disposition of petitions, the cost of administering the Program, and recommendations for changes in the Program.

"(d) PROCEDURES.—The provisions of subsections (d) and (e) of section 2112 shall apply to petitions filed under this subtitle.

"SEC. 2146. DETERMINATION OF ELIGIBILITY AND COMPENSATION.

"(a) GENERAL RULE.—Compensation shall be awarded under the Program to a petitioner if the special master finds on the record as a whole that the petitioner has shown the matters required in the petition required under section 2144(c)(1).

"(b) RECORD DEFINED.—For purposes of this section, the term 'record' means the record established by the United States Claims Court in a proceeding on a petition filed under section 2144.

"SEC. 2147. RADIATION COMPENSATION TABLE.

"The following is a table of injuries or specified diseases resulting from exposure to radiation from nuclear testing for purposes of receiving compensation under the Program:

"RADIATION COMPENSATION TABLE

"I. Leukemia (other than chronic lymphocytotic leukemia).
"II. Multiple myeloma.
"III. Cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated).

"SEC. 2148. COMPENSATION.

"(a) CLAIMS RELATING TO NUCLEAR TESTING.—Compensation awarded under the Program to a petitioner under section 2144 for an injury resulting from exposure to radiation from nuclear testing shall be limited to funds provided under section 2148(f) and shall be in the amount of $50,000, or to the petitioners who are the heirs of such an individual in the amount of $50,000 on behalf of the estate of such deceased individual.

"(b) CLAIMS RELATING TO URANIUM MINING.—Compensation awarded under the Program to a petitioner under section 2144 for an injury resulting from exposure to radiation from uranium mining shall be limited to funds provided under section 2148(f) and shall be in the amount of $100,000, or to the petitioners who are the heirs of such an individual in the amount of $100,000 on behalf of the estate of such deceased individual.

"(c) ATTORNEYS' FEES.—Any attorneys' fees awarded under this subtitle shall be paid out of the trust fund, and no attorney who renders services in connection with each claim shall receive less than reasonable attorneys' fees and costs nor more than an amount that exceeds 20 percent of the amount paid under such claim, any contract to the contrary notwithstanding. Any attorney who violates the provisions of this subsection shall be fined a sum not to exceed $5,000.

"(d) PAYMENT OF COMPENSATION.—

"(1) LUMP SUM.—Compensation described in subsections (a), (b), or (c) shall be paid in total in a lump sum not later than 30 days after the date of the judgment of the United States Claims Court under section 2145 awarding the compensation.

"(2) PROHIBITION ON TAXATION.—Payment of compensation under this subtitle shall not be subject to the provisions of the Internal Revenue Code of 1986, or any other provision of law.

"(e) INSURANCE CLAIMS.—An award made in accordance with this subtitle shall not be considered as any form of compensation or reimbursement for a loss for purposes of imposing liability on any individual receiving such an award, on the basis of such receipt, to repay any insurance carrier. An award or a claim to which this subtitle applies shall not affect any claim against an insurance carrier.

"(f) TRUST FUND.—

"(1) ESTABLISHMENT.—There shall be established in the Treasury of the United States, a trust fund to be known as the 'Atmospheric Nuclear Testing Compensation Trust Fund' that shall be administered by the Secretary, and shall consist of—

"(A) the sum of $100,000,000, appropriated to the Fund under paragraph (5); and

"(B) any amount credited to such Fund under any other provision of law.

"(2) INVESTING OF FUNDS.—Amounts in the Fund shall be invested in accordance with section 9702 of title 31, United States Code and any interest on, and proceeds from any such investment shall be credited to and become a part of such Fund.

"(3) DISBURSEMENT.—Amounts in the Fund shall be available only for disbursement in accordance with this subtitle.

"(4) TERMINATION.—The Fund shall terminate not later than the earlier of the date on which an amount has been expended from the Fund which is equal to the amount authorized to be appropriated to the Fund under paragraph (5), and any income earned on such amount, or 20 years after the date of the enactment of this subtitle. If all of the amounts in the Fund have not been expended by the end of such 20-year period, investments of amounts in the Fund shall be liquidated and receipts thereof deposited in the Fund and all funds remaining in the Fund shall be deposited in the miscellaneous receipts account in the Treasury.

"(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Fund $100,000,000. Any amounts appropriated pursuant to this section shall remain available until expended.

"(6) For administering this subtitle, there is authorized to be appropriated from the trust fund such sums as may be necessary in each fiscal year until the termination of the trust fund.

"SEC. 2149. TIME FOR FILING OF CLAIMS.

"A claim to which this subtitle applies shall be barred unless the claim is filed—

"(1) not later than 2 years after the date of the enactment of this subtitle; or

"(2) not later than 2 years after the date on which the specified disease resulting from exposure to radiation from nuclear testing or uranium mining is discovered.

"SEC. 2150. SEVERABILITY

"If any provision of this subtitle or the application thereof to any individual or circumstance is held invalid, the remainder of the subtitle shall not be affected thereby.

"SEC. 2151. DEFINITIONS.

"As used in this subtitle:

"(1) AFFECTED AREA.—The term 'affected area' means—

"(A) in the State of Utah, the counties of Washington, Iron, Kane, Garfield, Sevier, Beaver, Millard, and Piute;

"(B) in the State of Nevada, the counties of White Pine, Nye, Lander, and Lincoln; and

"(C) that part of Arizona that is north of the Grand Canyon and west of the Colorado River

"(2) INDIAN TRIBE.—The term 'Indian tribe' means any Indian tribe, band, nation, pueblo, or other organized group or community, that is recognized as eligible for special programs and services provided by the United States to Indian tribes because of their status as Indians.

"(3) LEGAL REPRESENTATIVE.—The term 'legal representative' means a parent or an individual who qualifies as a legal guardian under State law.

"(4) PROGRAM.—The term 'Program' means the National Atmospheric Nuclear Testing Compensation Program established under section 2143.

"(5) TRUST FUND.—The term 'trust fund' or 'fund' means the Atmospheric Nuclear Testing Compensation Trust Funds established in section 2148(f).

"(6) SPECIFIED DISEASE.—The term 'specified disease' means leukemia (other than chronic lymphatic leukemia), multiple myeloma, and cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated).".

IV. COMMITTEE VIEWS

FINDINGS

The case for this bill has grown steadily since 1977 when Dr. Joseph Lyon of the University of Utah published a scientific monograph in the *New England Journal of Medicine.* In his article, Dr. Lyon reported that there was a surprisingly high incidence of childhood leukemia in southern Utah—several times the normal rate for such cancer. The committee has spent well over a decade investigating and hearing evidence on the effects of the fallout from open air atomic testing and the effects of high levels of radon in early uranium mines. This process has also included an extensive review of the findings of the federal courts which have heard cases involving these issues. Based on all of the evidence, the committee finds that fallout emitted during the government's above-ground nuclear tests in Nevada exposed civilians who lived in the downwind affected area in Nevada, Utah, and Arizona to radiation that contributed to excess of cancers among these civilians. The committee also finds that radiation released in underground uranium mines that were providing uranium for the primary use and benefit of the nuclear weapons program exposed miners to massive doses of radiation that contributed to an epidemic of lung cancer and respiratory diseases among these miners. Finally, it is the view of the committee that the United States should recognize and assume equitable and compassionate responsibility for the damages sustained by these civilians and make partial restitution to these individuals for the burdens they have borne for the nation as a whole.

DISCUSSION

The Atomic Energy Acts of 1946 and 1954, under which the Atomic Energy Commission operated during the production of the nation's nuclear arsenal, mandated the protection of the public health and safety during research and production activities. (60 Stat. 755, 68 Stat. 921 codified at 42 U.S.C. sections 2011 et seq. (1976 ed.)). The federal government, as charged by the Congress, had a duty to exercise due care in protecting the downwind citizens and the uranium miners from the invisible dangers of radiation, dangers that in the 1950s were well known to government officials but largely unknown to the American people. Yet, the government did not adequately warn, protect, or even monitor the downwind population during the nuclear bombardment at the Nevada Test Site. And while the government continuously monitored the urani-

um mines and knew that they were being operated under conditions that resulted in high levels of radiation being present in the air, it failed to warn the miners, many of whom were Native Americans, of the significant health risks that had been established through previous observations in Europe and scientiifc research conducted both in the U.S. and abroad.

In *Allen* v. *U.S.*, 588 F. Supp. 247 (1984), a federal court review of about 1200 downwind claims against the federal government under the Federal Tort Claims Act, the court agreed that there was a duty of care. In his opinion, Judge Jenkins stated:

> The rule is grounded upon common sense: the party with superior knowledge is in the better position to lessen or mitigate the risks of injury. As far as nuclear fallout is concerned, the government possessed an overwhelming superiority in knowledge, as well as an effective monopoly of the special skills, training and experience relevant to open-air atomic testing.
>
> The immediate danger, i.e., exposure to humans to ionizing radiation, involves direct contact with the invisible. Alpha particles, beta particles and gamma rays fall beyond the range of human senses. Specialized instruments or materials must be used to detect their presence. Those without special technical skills are hard pressed to exercise the degree of care needed to protect themselves from such a hazard. A stringent duty of care to minimize such hazards is deliberately imposed on the party who acts with vastly superior knowledge, in favor of those having less information. The information gap between the plaintiffs and the Government in this action approaches the absolute; a duty of care adjusted according to that vast difference is a very stringent duty indeed.
>
> Another reason for imposing a high standard of care is supplied by precedent: in dealing with conduct of potential danger to children, there is a duty to observe extra caution for their safety. (588 F. Supp. at 355).

This last point is important, for although children are not found on nuclear submarines or in nuclear power plants, they are in abundance in residential communities such as those which were in the immediate path of the fallout. To make matters worse, scientists have demonstrated that children are far more likely than adults to develop cancer from radiation. One would think that the government would have at least made vigorous attempts to safeguard the children.

However, as the committee learned during its hearings, the public information program and the monitoring of the downwind population were woefully inadequate. The government knew of the possible long-term consequences of exposure to radiation, yet it failed adequately to inform persons at risk. It is particularly telling that the government was careful not to conduct a test if the winds were not blowing in the "right direction." Test explosions were cancelled if the winds were blowing toward the Los Angeles or Las Vegas areas but carried out when the wind was heading into Utah.

The government was aware of measures which could have been used by citizens to minimize the risk of exposure. It knew how to monitor the population to determine the levels of radiation, as exemplified by its concern with the monitoring of test site personnel. It knew of the increased risks of radiation to children, infants, and pregnant mothers and of the risk of feeding farm animals with forage dusted with radioactive fallout. It knew of the dangers of fallout entering the food chain and the potential long-term biological risks involved in eating of such food—particularly to children. As the court noted in the *Allen* case, the government "failed to adequately, intensively and periodically advise persons at risk to do the simple things learned in prior Pacific experiments and laboratory practice, namely to stay indoors and under cover, shower, wash clothes, scrub and clean food, and if deeply worried, to evacuate or leave the area for other locations of less potential contamination." It is clear to the committee that the government was negligent in monitoring the levels of contamination and warning the population of the health risks.

The government's duty of care and its negligence were also clear in the case of the uranium miners. Prior to the mining of uranium in the United States, it was known that high levels of radiation in European mines had been responsible for excessive cases of lung cancer in miners. Scientific studies, both abroad and in the United States, revealed that the radon gas in the mines would break down into radioactive particles which became attached to dust particles and was subsequently inhaled into the lungs, exposing the miners to several thousand rems in a few years.

Almost as soon as the United States mines began operating, the Public Health Service began monitoring the radon level in the mines and found that in some cases the levels were even higher than those found in the European mines. By the early 1950s, the Public Health Service was convinced that the radon levels were much too high and warned the Atomic Energy Commission that the levels must be reduced or excessive levels of lung cancer would result. Despite the mandate in the Atomic Energy Acts to protect health and safety, the Commission disclaimed responsibility for regulating the radiation levels in the mines. In order to stimulate regulatory action, the Public Health Service established a monitoring study. In order to conduct the study, they were not permitted to explain what they were doing to the miners, so as not to cause disruption of the mining operations.

These studies confirmed what the Public Health Service had already known. The rate of lung cancer among the miners was greater than would be expected in the general population. According to recent testimony by Dr. Victor Archer, about half of the uranium miners who worked in the mines have an increased risk of lung cancer due to overexposure to radiation. Yet the government failed to provide any type of warning to these workers. In his testimony, Dr. Archer reported that when some Public Health Service employees attempted to speak out against the danger, they were prohibited from traveling to the mining areas.

Of particular importance to those miners who were Native Americans is the Federal government's longstanding special relationship with Native Americans—the trust responsibility. This

higher level of responsibility includes a fiduciary duty to protect the health of Native Americans and to provide for their health care. Both the legislative and executive branches had full responsibility for the management of tribal natural resources, mine safety, and the health of the miners during the time the miners worked in the uranium mines. As with all of the uranium miners, the government violated its duty to the Native American uranium miners because it failed to warn them or protect them from the risks associated with uranium mining and did not ensure mine safety standards, despite being fully aware of the risks.

The Americans who lived in the arid environs of the Nevada Test Site were patriotic. If they had been told the dangers of the fallout, straight out—they would have still supported their government. But they would have also gotten indoors during the blasts and their aftermath. They would have kept their children indoors. They would have washed themselves and their clothes more often during the fallout. They would have tried to avoid contamination of the food they provided their families. While there may not have been any malicious intent on the part of the responsible federal officials, their failure to care properly for the downwinders was unconscionable.

For this failure alone—for this negligence—there should be recompense; but the Federal Tort Claims Act, which governs actions brought against the government, requires more than a demonstration of egregious dereliction. The law also requires a demonstration through a preponderance of the evidence that the nuclear fallout was the proximate cause of the cancers in question.

Radiation causes cancer; but so do other things, and under the best of circumstances, it is hard to prove that radiation has caused a given cancer in a given individual. No examination of the cancer victim can provide the answer, since radiation-caused cancers are indistinguishable from other cancers. The link between radiation and human cancer is primarily epidemiologic, and the link between radiation and any individual's cancer can only be expressed in terms of probabilities.

Scientists have established that radiation causes human cancer by comparing populations that have been exposed to similar populations that have not been exposed to given doses of ionizing radiation. Repeatedly, exposed populations have exhibited higher cancer rates than unexposed "control" populations. However, such a comparison study may show that a particular group has been harmed by radiation only if the number of people in the group is large enough such that scientists can be sure that the higher rate of cancer did not occur by chance.

Government estimates of the downwind population have ranged from 172 thousand to nearly 200 thousand. This may seem like a large number of people, but it is still too few for a definitive determination either that the fallout caused or did not cause cancer. Therefore, no direct study of the downwinders themselves can scientifically establish their case. What is more, even if a definitive study could be performed demonstrating that the downwind population had a significant increase in the rate of cancer, the cancers attributable to radiation would be hidden among these attributable to other factors.

Despite these problems, radiation is the most studied and best-known environmental toxin. Models and profiles have been developed from a vast store of scientific data gathered around the world but especially from the experiences of Nagasaki and Hiroshima. These models and profiles can be used to estimate the likelihood that an individual cancer can be attributed to radiation so long as certain critical factors about the person are known. The probability that an individual developed cancer from radiation has been shown to vary according to such things as the types of cancer, the person's age at the time of exposure, the person's sex, and not surprisingly, the amount of radiation the person received.

But herein lies another critical, perhaps insurmountable problem for the downwinders. Nuclear workers wear film badges and dosimeters, as do sailors in the nuclear Navy, and careful records are kept of their doses. X-ray machines and radiation therapy equipment are calibrated, and doctors know or should know the doses their patients receive. But no credible dose estimates exist for the downwinders, especially when they are considered as individuals.

The dearth of dose data makes impossible the construction of standard radiogenic cancer cases by the downwinders against the government. These data do not exist because the government negligently failed to gather these data. Therefore, the government has made it exceedingly difficult, if not impossible, for the downwinders to prove their cases under a standard interpretation of the Federal Tort Claims Act. Moreover, this federal negligence makes it unlikely that we will ever know the actual health effects of the fallout.

In *Allen* v. *U.S.*, the court had much to say about the failure of the government to monitor adequately the radiation doses of the people who lived with the fallout. The following are some of the court's findings and observations in this regard:

> [A]t no time during the period 1951 through 1962 did the off-site radiation safety program make any concerted effort to directly monitor and record internal contamination or dosage in off-site residents on a comprehensive person-specific basis. Widespread person-specific monitoring on a random sample basis did not take place until PLUMBBOB in 1957. Unlike the national laboratories such as Oak Ridge, where the quantities of material involved were a tiny fraction of those released at NTS, no routine urine, fecal or blood samples were taken from residents of local areas exposed to significant, measurable radioactive contamination. Not even in those circumstances where external exposures were estimated to meet or exceed the established safety guidelines, such as in St. George following the HARRY test in May, 1953, did the off-site rad-safe personnel make any effort to check possible internal contamination among residents by direct methods. No thyroid or whole-body counters were constructed for use in screening members of the community—especially children—who may have been exposed to more than was permissible even for radiation workers. In fact, in the aftermath of HARRY, the monitors decided *not* to take a number of milk samples in order to avoid arousing public concern." (588 F. Supp. at 374).

Even in dealing with "hard" external gamma radiation, dose estimation for the off-site residents amounted at best to an educated guess. Hastily taken, surface gamma measurements were generalized into smooth isodose lines on a fallout map and then "adjusted" downward by a factor of 2 or more to account for *assumptions* made about the attenuating effects of housing materials, automobiles, clothing, topography, distance and other factors. (id. at 380).

Person-specific monitoring and recordkeeping through use of film badges or dosimeters would have largely eliminated the guesswork used both then and now to assess external radiation risks to the local community. * * * Had the Government accurately monitored the individual exposures in off-site communities at the time of the tests, accurate estimation of actual dosage to individual persons would have been achieved. (id. at 381).

Careful review of the numerous relevant documents, reports and statements which are now a part of the record in this case compels this court to conclude that the monitoring activities conducted in the areas surrounding the Nevada Test Site in an effort to ascertain external doses of radiation were persistenly negligent in philosophy and action. The monitoring program as carried out necessarily produced inadequate data from which to accurately evaluate either acute, short-term or chronic, long-term risks of adverse health effects, especially as related to children. Long-term exposures and risks, particularly those related to external beta and internal exposure, alpha, beta and gamma radiations, were never adequately measured or analyzed during the period of atmospheric testing. The inability of current dose estimation projects to make reasonably confident dose estimates based solely on the contemporaneous measurements by NTS neatly underscores the inadequacy of that data at that time as a basis for making those estimates *at that time.* (id. at 381).

Test personnel were commonly assigned film badges and dosimeters; residents were not. Test personnel were regularly directed to shower, bathe, change and launder clothing, decontaminate vehicles, buildings and work areas and to exercise care to avoid ingesting or inhaling fallout materials. * * * Although the same or even stricter exposure standards were to be applied to the off-site population, no general direction was given to residents to shower or bathe carefully, change and launder clothing; except for brief efforts at washing vehicles at roadblocks, decontamination activities in the communities were minimal. This disparity ran contrary to the public-related obligations recognized by the Government. (id. at 387).

[T]he Government's negligent failure to adequately monitor and record the actual external and internal radiation exposures of off-site residents on a person-specific basis has yielded many glaring deficiencies in the evidentiary record as it relates directly to the question of causation. * * * Accurate monitoring of persons largely was not undertaken; adequate warnings and information were almost entirely omitted from the operational radiation safety activities. (id. at 412).

> Rather than serving as the ceiling of retrospective dosimetry for many of the plaintiffs, the exposure estimates currently offered by the Government should likely be deemed to be *minimum* figures for use in risk estimation. (id. at 427).

The glaring deficiencies in the federal data on doses also became evident during the 1979 congressional hearings. Embarrassment over these deficiencies at that time prodded the Department of Energy to begin the Off-site Radiation Exposure Review Project (ORE"P) which has since spent millions of dollars attempting to reconstruct the doses through an array of clever techniques. However eminent and resourceful the scientists involved, it is difficult to imagine their succeeding in providing estimates that will be approximately accurate for individual claimants. Several of the people who wore off-site monitors during the bomb tests reported that the fallout readings could vary substantially depending on whether one was measuring at the ground level, at waist level, or over at a bush ten feet distant. The radiation blew and swirled with the wind and was concentrated or dispersed according to topography. The downwinders were here and there, going about their daily business in the course of an entire decade of nuclear explosions. It appears impossible to now reconstruct the dose that any individual downwinder accrued.

Occasionally, the fallout drifted on a small area, what the monitors called a "hot spot," a place where radiation readings were extraordinarily higher than the adjoining areas. On discovering one such "hot spot" prospectors filed a claim, thinking they had discovered uranium deposits. There is no way now of learning how many "hot spots" there were, or whether a given downwinder did or did not encounter one.

This is not to say that the dose reconstruction project is worthless and should cease. The old data, however incomplete, should be examined and new evaluations should be made so that we gain the best sense possible of both the parameters and the perimeters for the disposition of the fallout. Although certain limits, especially geographic limits, can be approximated, no credible, individual dose estimates can be made for the people who lived in the maelstrom of the fallout. One cannot be sure what individual downwinders ate, what they breathed, or where they stood. These people are denied the personal dose data that is available to every nuclear worker.

Nevertheless, some of these victims were able to convince the court that their exposure to the fallout did cause their cancers. In his testimony before the court, which he reaffirmed in the committee's hearings, Dr. Joseph Lyon testified that the data reflected a probability that between 59 and 71 percent of the leukemia cases resulted from exposure to the fallout radiation. He also testified that there was a 240 to 340 percent increased incidence of childhood leukemia in the Utah counties closest to the identified patterns of significant fallout, when compared to expected rates. Despite years of research involving these cases, no other explanation has been presented to explain the increased incidence of these cancers.

In the *Allen* case, the court, aware of the scope and implications of the federal government's negligence in this matter, reviewed the extensive record, found that the fallout had caused some of the

cancers, ruled in favor of some of the downwind victims, and made awards to 10 of 24 plaintiffs in test cases.

The Department of Justice, however, successfully appealed the *Allen* decision to the Tenth Circuit Court of Appeals. While the lower court's ruling of causation and liability was not overturned, the Appeals Court ruled that the federal government was immune from liability under the Federal Tort Claims Act because the nuclear testing was a discretionary governmental function, for which the Act provides a liability exemption. In other words, a technicality removed responsibility from the government. The Supreme Court has since refused to hear the case on appeal. Despite Judge Jenkin's innovative interpretation of the law in awarding damages for some of the claimants, for all intents and purposes, these civilian downwind victims have exhausted their court remedies with nothing to show for their suffering.

Though the requirements of justice should mean success for the plaintiffs, the letter of the law in these cases was against them. Significantly, one judge on the appeals panel specifically emphasized the great sympathy the court had for the individual cancer victims who had alone borne the costs of the government's choices. He concluded, however, that "their plight is a matter for Congress."

The uranium miners' legal avenues have met a similar fate. For technical, legal reasons, most of the miners with cancer attributed to radiation have a claim against neither the mining companies nor the state workers compensation boards. They have also met essentially the same result as the downwinders in their legal battles to secure relief.

In recognition of the fact that legal avenues are closed and of the fact that causation is such a difficult matter to prove on a case by case basis, especially in light of the government's failure to monitor the downwind population, the committee has designed this bill to provide compensation to those victims whose cancers were most likely to have been caused by their prolonged exposure to radiation. In order to qualify for compensation under this bill, the fallout victims must have lived in the area long enough to have been exposed to repeated doses of fallout. Furthermore, they must have developed a cancer for which there is evidence that exposure to radiation increases the probability of the onset of the disease (as established in legislation to compensate military veterans who were exposed in Japan and at the Nevada test site). Uranium miners must have worked in mines during those times when there were minimum efforts to reduce the levels of radon in the air and they must have been exposed to levels of radiation of at least 200 Working Level Months (a mining measure of the length of exposure to certain amounts of radiation in the air).

The provision of compassionate awards in cases such as these where causation and liability are difficult is not new. In 1985, Congress passed and the President signed into law an administrative trust fund remedy for the radiation damage claims of the Marshall Islanders. Micronesia was the other place that the federal government tested its nuclear weapons in the atmosphere. Sixty-six nuclear explosions were set off in the vicinity of Enewetak and Bikini Islands. As with the Nevada tests, these sites were selected because

the areas around them were almost without people. Almost but not quite. In both cases people were there. Under the Compact of Free Association, which the United States signed, a $150 million trust fund was established to settle all radiation damages claims by the Marshall Islanders against our federal government. The fund is held in American securities and administered by commissioners appointed by the Marshall Islanders. The fund has been used to pay damages to individuals and to restore property and to provide a variety of health services.

During the 100th Congress, a measure was passed to provide assistance to the veterans who were exposed to the harmful effects of atomic radiation while in the line of duty. Under the provisions of that law, those veterans who develop any of several listed cancers and who can establish that they participated in nuclear weapons tests or in the occupation of Hiroshima or Nagasaki are presumed to have developed the disease as a result of their service. These veterans are then entitled to Veterans' Administration assistance.

Several of the factors involving the test site downwinders indicate an even more compelling case for and greater need to provide for some form of compensation. Many of the downwinders were young children, still in their developmental years and highly susceptible to the damaging effects of the radiation, as opposed to the military population which generally consisted of healthy, young adult males. The average time of exposure for those in the military varied from a few weeks to a few months, while the average downwinder was exposed anywhere from slightly less than a year to more than 20 years, resulting in a much larger cumulative lifetime exposure rate. Residents in the Utah, Nevada, and Arizona downwind locations were more likely to have consumed locally grown food and dairy products that were affected by fallout for long periods of time. Such a diet would produce an even greater chance for exposure.

Clearly, if the federal government had a responsibility to compensate the Marshall Islanders and the Atomic Veterans, it also has a responsibility to compensate the test site downwinders.

With respect to what has already been expended by the fallout victims and the uranium miners in combatting their cancers and burying their loved ones, the cost of this bill are not the great. Compensation will amount to only a fraction of the amount downwinders have spent because of the problems that the government has caused. According to the General Accounting Office, the federal government has spent over $2 billion to study the health effects of radiation. We have spent well over $100 million to clean up uranium tailings. We have spent over $100 million to treat and study the people of Nagasaki and Hiroshima. We continue to spend hundreds of millions of dollars on underground nuclear testing.

Analysis of the Bill

RESEARCH AND EVALUATIONS

The committee has received volumes of testimony during its extensive review of these radiation issues. Nevertheless, a review of information presented in support of the bill indicates some areas where further study is warranted. Specifically, whether or not

there are additional diseases, other than those listed in the bill that are associated with low level ionizing radiation, the existence of evidence demonstrating that respiratory diseases other than lung cancer, fibrosis, radiation pneumonitis, or cor pulmonale related to pulmonary fibrosis are associated with radiation exposure of uranium miners, the existence of evidence supporting the conclusion that exposure of uranium miners to less than 200 working level months of radiation is associated with lung cancers or other serious respiratory diseases, and any modifications which may be necessary to the radioepidemiologic tables compiled under section 7 of the Orphan Drug Act as a result of the recent BIER V Report by the National Research Counsel.

New findings on the effects of low level radiation exposure also warrant providing the affected states with technical assistance for education, preventative treatment, and rehabilitation programs.

COMPENSATION PROGRAM

The committee has chosen to model the compensation program in this bill after the mechanism employed in the Vaccine Childhood Injury Compensation Program. Similar to that model, a special master for the United States Claims Court will have jurisdiction over proceedings to determine if a petitioner is entitled to compensation for injuries experienced as a result of exposure to nuclear fallout from the open air atomic testing or exposure to radiation in the uranium mines. The special master will review the petition and award compensation if the petitioner has met the requirements outlined in the bill. Placing the radiation compensation program within the framework of an existing program should help to alleviate some of the associated costs.

The special master chosen to hear the petitions under this program shall be located within the 10th circuit of the United States to help reduce necessary travel costs to those radiation victims or their families in presenting evidence on these claims.

PETITION REQUIREMENTS

Because of the possibility that any given cancer may or may not have been directly caused by low level radiation, and because this legislation attempts to compensate those victims with the highest probability of cancer due to the atomic testing or uranium mining, the requirements for filing a petition have been narrowly drawn. The counties where a downwind victim must have lived were those counties that repeatedly had the highest levels of accumulated fallout. The uranium mines found in the four listed states were those with the highest levels of radon. The time periods for living in the downwind areas or working in the mines are those periods when the levels of radiation were at their greatest. And finally, only those cancers which have strong evidence of being caused by radiation are included in the list of diseases. Many of the cancers found in this legislation are included in the earlier law to compensate atomic veterans.

AMOUNT OF COMPENSATION

The committee acknowledges that the amount of damages suffered by many downwinders and uranium miners greatly exceeds the compensation limits of $50,000 and $100,000 respectively. Nevertheless, given the difficulty of proving causation in each specific case, and in an attempt to place a reasonable limit on the cost of this program, the committee has chosen these levels as fair compensation for the limited numbers of diseases under this bill.

ATTORNEYS' FEES

It is anticipated that in a majority of the cases, the victim, or those representing the estate of the victim, will be able to file a claim with the special master of the U.S. Claims Court which may be reviewed and acted upon without the need for formal proceedings. It is hoped that this mechanism will reduce the need for extensive representation by legal counsel, thus reducing a potentially large cost of the bill. It is for this reason that the committee has included language in the bill which would allow the payment of reasonable attorneys' fees not to exceed 20 percent of the amount of any claim. It is also anticipated that many of the cases will in fact be handled by a few attorneys who have represented these victims for many years. In such cases where one or more attorneys file claims on behalf of multiple victims, the court or the special master is given discretion to fix the amount of attorneys'fees at levels below the 20 percent maximum limit.

CONCLUSION

The committee believes that this legislation will provide a reasonable and compassionate payment to these unwitting victims of our nuclear program. Efforts have been made to keep the costs of the bill at a reasonable level and to restrict payments to those victims who were at the greatest risk. The recognition that compensation was justified in the cases of the inhabitants of the Marshall Islands and the atomic veterans suggests that compensation to the American downwinders and uranium miners is justified as well.

V. COMMITTEE ACTION

On February 28, 1990, the Committee met in Executive Session and ordered by voice vote, that S. 2466 be reported as an original bill from Commitee.

VI. COST ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, March 27, 1990.

Hon. EDWARD M. KENNEDY,
Chairman, Committee on Labor and Human Resources,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for the National Atmospheric Nuclear Testing Compensation Act of 1990.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

JAMES L. BLUM, *Director*
(For Robert D. Reischauer).

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: Not yet assigned.

2. Bill title: National Atmospheric Nuclear Testing Compensation Act of 1990.

3. Bill status: As ordered reported by the Senate Committee on Labor and Human Resources, February 28, 1990.

4. Bill purpose: The bill would establish a new entitlement program, the National Atmospheric Nuclear Testing Compensation Program, to compensate individuals for injuries or deaths resulting from the exposure to radiation from nuclear testing and uranium mining. Individuals (or their survivors) would be entitled to compensation if the individual died or suffered a specified injury after living in an area affected by nuclear testing for a specified period of time ("downwinders") or worked in a uranium mine for a specified period of time. A U.S. Claims Court special master would have jurisdiction to determine if such individuals are entitled to compensation and, if so, to assure the prompt payment of any compensation awarded.

The bill would establish the Atmospheric Nuclear Testing Compensation Trust Fund and would authorize the appropriation of $100 million to the trust fund. Compensation payments would be made out of the trust fund and would be limited to a total of $100 million (plus any interest collected from investment of the fund's resources). The downwinders (or their survivors) would receive $50,000 each, and qualifying uranium miners (or their survivors) $100,000 each.

In addition, the bill would require the Secretary of the Department of Health and Human Services (HHS) to:

Conduct a study concerning diseases associated with exposure to radiation;

Provide technical assistance to state health authorities in Arizona, Nevada, Utah, Colorado and New Mexico to develop preventive treatments and appropriate rehabilitation programs to reduce the risk of diseases or subsequent disabilities associated with exposure to radiation; and

Provide for the establishment of public information and education programs for the prevention and control of diseases resulting from exposure to radiation.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Compensation payments:					
Required budget authority	25	50	25	.....	.....
Estimated outlays	25	50	25	.....	.....

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Other expenses:					
Estimated authorization level	2	2	2	2	2
Estimated outlays	2	2	2	2	2

The cost of this bill would fall within budget functions 550 and 750.

Basis of estimate: CBO assumes that the $100 million authorized to be appropriated to the trust fund would be appropriated at the beginning of fiscal year 1991, and that appropriations and outlays out of the trust fund would be made in fiscal years 1991 through 1993. We estimate that between 800 and 1,000 downwinders (or their survivors) and between 350 and 550 uranium miners (or their survivors) would be eligible for this program, and that all petitions for compensation would be filed within two years of enactment. Using the midpoints of these ranges, and assuming payments of about $10 million in attorneys' fees, CBO estimates that spending from the trust fund would total about $100 million over three years. (Total claims could range from $85 million to $125 million, depending on the number of claimants and the amount of attorneys' fees.) The maximum spending permitted by this bill would be in the vicinity of $110 million to $115 million—the $100 million authorized to be appropriated to the trust fund plus interest earned on those funds. Thus, it is possible that the amounts available in the trust fund would be insufficient to cover all potential claimants. (It is also possible, however, that the amounts would be more than sufficient, and that funds would be returned to the Treasury.)

CBO estimates that the U.S. Claims Court special master would cost about $250,000 annually over the 1991–1993 period. In addition, CBO estimates that the required HHS study would cost about $500,000, while the technical assistance to the states and the public information and education programs would cost $1 million to $2 million annually. These amounts would come from appropriated funds.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: None.

9. Estimate prepared by: Mitchell Rosenfeld (226–2860) and Karen Graham (226–2820).

10. Estimate approved by: C.G. Nuckols, for James L. Blum, Assistant Director for Budget Analysis.

VII. REGULATORY IMPACT STATEMENT

The Committee has determined that there will be a minimal increase in the regulatory burden of paperwork as a direct result of this bill.

VIII. SECTION-BY-SECTION ANALYSIS

Section 1. Short title

This act is cited as the "National Atmospheric Nuclear Testing Compensation Act of 1990." It was based on the following congressional findings:

Section 2. Findings

1. Civilians were exposed to fallout from the Government's above-ground atomic tests which resulted in excess cancers in residents of Nevada, Utah, and Arizona.
2. The health of civilians unwittingly exposed to atomic bomb test compromised their health.
3. Radiation from underground uranium mines exposed miners to increased risks of lung cancer and respiratory diseases.
4. The United States should recognize and assume responsibility for damages sustained by civilians exposed to radiation from the Government's nuclear weapons production programs.
5. The lives and health of uranium miners and innocent citizens who lived downwind from the atomic bomb tests were sacrificed to serve the security interests of the United States, for which the United States Congress apologizes.
6. Many of the uranium miners exposed to increased radiation doses were native Americans (Navajo tribe) for whom the United States has assumed trust responsibilities for assistance and comprehensive health care.

Section 3. National Atmospheric Nuclear Testing Compensation Program

Title 21 (XXI) of the Public Health Service Act (42 U.S.C. 30 aa-1 etc.) is amended as follows:

1. Deleting the title and inserting: "COMPENSATION PROGRAMS"
2. Adding a new Subtitle 3: NATIONAL ATMOSPHERIC NUCLEAR TESTING COMPENSATION PROGRAM

Section 2141. General authority concerning research and evaluations

The Secretary of DHHS shall conduct a study and submit it no later than 180 days after enactment of this subtitle that will contain the following information:

1. Evidence demonstrating that diseases other than those listed in the Radiation compensation Table in Section 2147 are associated with exposure to low levels of ionizing radiation.
2. Evidence demonstrating that respiratory diseases other than lung cancer are associated with exposure of uranium miners to ionizing radiation as described in section 2144(c)1)(B)(i).
3. Data supporting conclusions that exposure of uranium miners to less than 200 working level months (WLM) of ionizing radiation is associated with lung cancers or other serious respiratory diseases.
4. Updated results of a study done under section 7 of the Orphan Drug Act (42 U.S.C. 241 note) required as a result of the Biological Effects of Ionizing Radiation committee of the National Academy of Sciences/National Research Council report (BEIR V report).

Section 2142. General authority respecting technical assistance and information

(a) Technical assistance.—The Secretary will provide technical assistance to State health authorities in Arizona, Nevada, Utah, Colorado, and New Mexico in the development of preventive treatments, rehabilitation, and other programs to reduce the risk of physical disability and other diseases resulting from exposure to low levels of ionizing radiation.

(b) Information.—The Secretary will provide for establishment of public information and education programs for prevention and control of diseases resulting from exposure to low levels of ionizing radiation by individuals described in Section 2144(c).

Sec. 2143. Establishment of a program

(a) Program established.—A National Atmospheric Nuclear Testing Compensation Program is established under which compensation may be paid for injury or death resulting from individual exposure to ionizing radiation from nuclear testing and uranium mining.

(b) Attorney's obligation.—Any attorney who is consulted by any individual reporting death or injury resulting from nuclear testing or uranium mining is under ethical obligation to advise that individual that compensation may be available.

Section 2144. Petitions for compensation

(a) General rules.

(1) Initiation.—A proceeding for compensaiton under the Program shall be initiated by service upon the Secretary and filing of a petition containing the matter of radiation injury or death under subsection (c) in the United States Claims Court.

(2) Payment in Full for Settlement of Claims.—Under this section, the acceptance by an individual of payment shall be in full settlement against the United States or any person arising out of exposure to an individual to ionizing radiation as described in subsection (c).

(b) Petitioners

(1) Filing of Petition.—Any individual, including any member of an American Indian tribe claiming injury resulting from exposure to ionizing radiation may file a petition for compensation under the program if requirements of subsection (c)(1) are met and if such an individual is a minor or is disabled.

(2) Limitation on Number of Petitions.—An individual may file only one petition.

(c) Petition Content.—A petition for compensation under the Program shall contain:

(1) An affidavit and supporting documentation of injury or death showing that an individual:

(A)(i) Resided in the affected area of exposure to ionizing radiation as defined in Section 2151 for a period of at least one year as of January 21, 1951 and ending on October 31, 1958, or resided in the affected area as of June 30, 1962 and ending on July 31, 1962.

(ii) Contracted a disease as described in the Radiation Compensation Table in Section 2147.

(B)(i) Was located in a uranium mine located in Colorado, New Mexico, Arizona, or Utah during the period January 1, 1947 to December 31, 1971.

(ii) Was exposed to 200 or more working level months (WLM) of ionizing radiation as defined by the Secretary.

(2) Provides all available or unavailable medical records or autopsy reports together with reasons for unavailability of records as appropriate.

(c) Special Master.—The clerk of the United States Claims Court shall immediately forward a filed petition to the Chief Special Master under section 2145(e)(1).

Section 2145. Court jurisdiction

(a) General rule.—The U.S. Claims Court special masters have jurisdiction under this section:

(1) over proceedings to determine if a petition under section 2144 is entitled to compensation under this Program;

(2) to issue and enforce such orders determined necessary by the Court to assure prompt payment of any compensation awarded.

(b) Parties

(1) Secretary.—The Secretary is named as respondent to a filed petition under section 2144(b). Except as provided in paragraph (2), no other individual may intervene in any such proceeding.

(2) Notice of filing.—No later than 30 days after the Secretary receives any petition filed under section 2144, the Secretary shall publish notice of petition in the Federal Register. The special master designated under subsection (c) shall provide individuals with the opportunity to submit relevant information:

(a) Relating to the existence of evidence as described in section 2144(c)(s)(A); or

(b) Relating to any allegation in a petition relating to matters described in section 2144(c)(1)(B).

(c) Additional Special Master

(1) In General.—The United States Claims Court shall designate a special master who shall hear cases in the 10th circuit of the United States during the conduct of cases under this subtitle, but in no event later than four years after date of enactment of this subtitle. The provisions of section 2112(c)(2) apply under this subsection.

(2) Reports.—The special master designated under (1) shall prepare and submit annually to appropriate committees of congress and judges of the United States Claims Court a report listing the number of petitions filed under section 2144 and their disposition, dates on which radiation injury or death occurred as a result of nuclear testing or uranium mining leading to petitions, the types and amounts of awards, the length of time for disposition of petitions, the cost of administering the Program, and recommendations for changes in the Program.

(d) Procedures.—Provisions of subsections (d) and (e) of section 2112 apply to petitions filed under this subtitle.

Section 2146. Determination of eligibility and compensation

(a) General rule.—Compensation shall be awarded under the Program to a petitioner if the special master finds on the record that the petitioner has demonstrated the matter required under section 2144(c)(1).

(b) Record defined.—The term "record" means a record established by the United States Claims Court in a petition proceeding filed under section 2144.

Section 2147. Radiation compensation table

I. Leukemia (other than chronic lymphocytic leukemia)
II. Multiple myeloma
III. Cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated)

Section 2148. Compensation

(a) Claims relating to nuclear testing.—Compensation awarded under the Program to a petitioner under section 2144 shall be in the amount of $50,000 (?). Petitioners who are heirs of such an individual shall receive $50,000 (?) on behalf of the estate of such deceased individual.

(b) Claims relating to uranium mining.—Compensation awarded under the Program to a petitioner under section 2144 for injury relating to uranium mining shall be in the amount of $100,000. Heirs shall receive $100,000 on behalf of the estate of such deceased individual.

(c) Attorney fees.—Any attorney fees awarded under this subtitle shall be paid out of a trust fund. No attorney who renders services in connection with a claim shall receive less than reasonable attorney fees, or costs no more than an amount that exceeds 20 percent of a claim, any contract to the contrary notwithstanding. Any attorney who violates provisions of this subsection shall be fined a sum not to exceed $5,000.

(d) Payment of compensation

(1) Lump sum.—Compensation described in subsections (a), (b), or (c) shall be paid in a total lump sum not later than 30 days after the date of judgement of the United States Claims Court under section 2145 awarding compensation.

(2) Prohibition on taxation.—Payment of compensation under this subtitle shall not be subject to provisions of the Internal Revenue Code of 1986 or any other provision of the law.

(e) Insurance claims.—An award made under this subtitle shall not be considered as any form of compensation or reimbursement for a loss because of imposing liability on any individual receiving an award in order to repay any insurance carrier. An award or claim to which this subtitle applies shall not affect any claim against an insurance carrier.

(f) Trust fund

(1) Establishment.—There shall be established in the Treasury of the United States a trust fund named the "Atmospheric Nuclear Testing Compensation Trust Fund." Administered by the Secretary, it will consist of:

(A) the sum of $100,000,000 appropriated to the fund under paragrpah (5); and

(B) any amount credited to such Fund under any other provision of the law.

(2) Investing of funds.—Amounts in the Fund shall be invested in accordance with section 9702 of title 31, United States Code. Any interest and proceeds from such investment shall be credited to and become part of the Fund.

(3) Disbursement.—Amounts in the Fund shall be available only for disbursement in accordance with this subtitle.

(4) Termination.—The Fund shall terminate no later than the earliest date on which an amount has been expended from the Fund equal to the amount authorized to be appropriated under paragraph (5) and any income earned on such amount, or 20 years after the date of enactment of this subtitle. If all the amounts in the Fund have not been expended by the end of a 20 year period, investments of amounts in the Fund shall be liquidated and receipts thereof deposited in the Fund, and all amounts remaining in the Fund, shall be deposited in the miscellaneous receipts account in the Treasury.

(5) Authorization of appropriations.—There is authorized to be appropriated to the Fund $100,00,000. Any amounts appropriated pursuant to this section shall remain available until expended.

(6) Administration.—For administering this subtitle there is authorized to be appropriated from the Fund such sums as may be necessary in each fiscal year until termination of the Fund.

Section 2149. Time for filing of claims

A claim to which this subtitle applies shall be barred unless the claim is filed:

(1) not later than 2 years after the date of enactment of this subtitle; or

(2) not later than 2 years after the date on which the specified disease resulting from exposure to ionizing radiation from nuclear testing or uranium mining is discovered.

Section 2150. Severability

If any provision of this subtitle or application to any individual or circumstance is found invalid, the remainder of the subtitle shall not be affected.

Section 2151. Definitions

In this subtitle:

(1) Affected Area.—The term "affected area" means:

(A) in the State of Utah, the counties of Washington, Iron, Kane, Garfield, Sevier, Beaver, Millard, and Piute;

(B) in the State of Nevada, the counties of White Pine, Nye, Lander, and Lincoln; and

(C) that part of Arizona that is north of the Grand Canyon and west of the Colorado River.

(2) Indian tribe.—The term "Indian Tribe" means any Indian tribe, band, nation, pueblo, or other organized group or community that is recognized as eligible for special programs and services provided by the United States to tribes because of their status as American Indians.

(3) Legal representative.—The term "legal representative" means a parent or individual who qualifies as legal guardian under State law.

(4) Program.—The term "Program" means the National Atmospheric Nuclear Testing Compensation Program established under section 2143.

(5) Trust fund.—The term "Trust Fund" or "Fund" means the Atmospheric Nuclear Testing Trust Funds established in section 2148(f).

(6) Specified disease.—The term "specified disease" means leukemia (other than chronic lymphocytic leukemia), multiple myeloma, and cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis of hepatitis B is indicated).

IX. ADDITIONAL VIEWS OF SENATORS THURMOND AND COATS

As proposed, the "National Atmospheric Nuclear Testing Compensation Act of 1990" would create an entitlement program that would permit preferred classes of claimants to circumvent the provisions of the Federal Tort Claims Act (FTCA). The proposed Act provides across-the-board payments to broad categories of persons based upon claims that the individuals within those categories contracted certain medical conditions. The Act presupposes that these medical conditions may have been proximately caused by the actions of the United States Government through above-ground nuclear tests that were conducted in the State of Nevada during the 1950's and 1960's. Provision is also made for compensation to miners who worked in uranium mines in the states of Colorado, New Mexico, Arizona, and Utah during 1947–71. In creating such an exception to the FTCA, this measure affords limited classes of claimants preferential treatment from other similarly situated claimants who, in accordance with settled law, must pursue traditional legal remedies to recover damages.

Our primary concern is with the question of causation: namely, would the Act compensate potentially hundreds of "downwinders" and miners whose diseases developed, not as a result of exposure to radiation fallout, but from some other cause such as genetic disposition or lifestyle? According to testimony given by the United States Department of Justice before the Subcommittee on Administrative Law and Governmental Relations of the House of Representatives Committee on the Judiciary, it is unclear that the types and degrees of cancer experienced by the potential classes of claimants is measurably greater than would be expected within the United States population at-large. A possible exception to this is the incidence of childhood leukemia noted in children residing in areas in the immediate path of radioactive atmosphere. Yet, the bill also provides compensation to claimants who have (or had) much more common types of cancer, such as lung, breast, and colon cancer. In a study conducted by the National Institutes of Health (NIH) at the request of Congress, research indicated that these cancers are probably unrelated to the low doses of radiation that could have been received by persons who lived "downwind" from the test site vicinity.

Moreover, the Act establishes a compensation program grounded only on the qualifying criteria of: residence in certain counties of Utah, Nevada, and Arizona, or employment in uranium mines in the states of Colorado, New Mexico, Arizona, and Utah; during particular time periods; with the manifestation of specified diseases. This legislation does not take into account other, more plausible causes of cancer, such as genetic disposition or lifestyle. Also, it

does not permit consideration of latency periods—the time that elapses between radiation exposure and the diagnosis of disease.

This measure would also award special compensation to miners who worked in privately owned mines which provided uranium that was used in atomic testing. However, it is unclear as to why these workers should be treated differently from workers in other strategic industries, who have suffered occupational illnesses and who have had recourse available to them under Workers' Compensation laws. The Act would compensate miners who worked in uranium mines between 1947 and 1971, even though only a portion of the uranium mined during that time period was used in the atomic testing program. Moreover, according to the Department of Justice, the low level of radiation exposure (200 working-level months) specified in this bill would leave even causation of lung cancer in doubt.

We sympathize with individuals and their families who have been affected by illness and duly respect the good intentions of our colleagues on the Committee who seek to intervene on behalf of such persons. Furthermore, we realize that the broad sweep of this legislation may well be as the result of the frustration of its sponsors concerning the apparent inability of scientists to determine definitely which individuals, who are suffering or have suffered illness, might not have experienced such maladies absent exposure to radiation.

It is unclear, however, that the special treatment that would be created for the classes of claimants in this legislation is merited. This is of special concern since other similarly situated claimants must pursue their causes of action against the Federal Government under traditional theories of law in established legal forums. Furthermore, even if special treatment is justified, we are concerned that the Act, as proposed, may go well beyond the goal of compensating those who may have actually been affected by radiation fallout. The qualifying criteria for compensation under this legislation does not require any proof of causation and, therefore, is almost certainly over-inclusive. We believe that the establishment of an entitlement program in this situation sets a dangerous precedent.

Additionally, we are concerned with Section 2 of the bill, which sets out six "Findings." We have no basis to substantiate the merit of these assertions.

Finally, we question the constitutionality of vesting significant authority in a "Special Master," a position which the Act creates to adjudicate claims. Such an official would not be an Article I judge, an Article III judge, or an Executive Branch officer subject to the direction of the President. Although the bill would permit Article I and, eventually, Article III judges to review the decisions rendered by the Special Master, their review would be sharply circumscribed by the "arbitrary and capricious" standard. Furthermore, it is unclear that this restricted review power would meet constitutional requirements.

In addition to testifying before the House Subcommittee on Administrative Law and Governmental Relations on November 1, 1989, the Department of Justice has submitted its views on this bill in a ten-page letter to Senator Joseph Biden, the Chairman of the Senate Committee on the Judiciary. This letter was entered in the

record of the Senate Committee on Labor and Human Resources during the Executive Session that was held on February 28, 1990. We believe that consideration of the views articulated by the Department should be given careful consideration in any further deliberations regarding this legislation. Also, we reserve our rights to oppose this measure should it be considered by the full Senate.

STROM THURMOND.
DAN COATS.

X. CHANGES IN EXISTING LAW

In compliance with rule XXVI paragraph 12 of the Standing Rules of the Senate, the following provides a print of the statute or the part or section thereof to be amended or replaced (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

PUBLIC HEALTH SERVICE ACT

TITLE XXI—[VACCINES] *COMPENSATION PROGRAMS*

SEC. 2101. [300aa-1]—SEC. 2134. [300aa-34] * * *

* * * * * * *

Subtitle 3—National Atmospheric Nuclear Testing Compensation Program

SEC. 2141. GENERAL AUTHORITY CONCERNING RESEARCH AND EVALUATIONS.

Not later than 180 days after the date of enactment of this subtitle, the Secretary shall conduct a study and prepare and submit, to the appropriate Committees of Congress, a report that shall contain—

(1) the existence of evidence demonstrating that diseases other than those listed in the Radiation Compensation Table in section 2147 are associated with exposure to low levels of ionizing radiation;

(2) the existence of evidence demonstrating that respiratory diseases other than lung cancer, fibrosis, radiation pneumonitis, or cor pulmonale related to pulmonary fibrosis are associated with radiation exposure of uranium miners as described in section 2144(c)(1)(B)(i);

(3) the existence of evidence or data supporting a conclusion that exposure of uranium miners to less than 200 working level months of radiation is associated with lung cancers or other serious respiratory diseases; and

(4) updates to the results of the study undertaken under section 7 of the Orphan Drug Act (42 U.S.C. 241 note) required as a result of the BIER V report prepared by the National Research Counsel.

SEC. 2142. GENERAL AUTHORITY RESPECTING TECHNICAL ASSISTANCE AND INFORMATION.

(a) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to State health authorities in Arizona, Nevada, Utah, Colorado and New Mexico in the development of preventive treat-

ments and appropriate rehabilitation programs to reduce the risk of diseases resulting from low levels of radiation exposure or subsequent disabilities associated with such exposure.

(b) INFORMATION.—The Secretary shall provide for the establishment of public information and education programs for the prevention and control of diseases resulting from exposure to low levels of radiation by individuals described in section 2144(c).

SEC. 2143. ESTABLISHMENT OF PROGRAM.

(a) PROGRAM ESTABLISHED.—There is established the National Atmospheric Nuclear Testing Compensation Program under which compensation may be paid for injuries or death resulting from the exposure of an individual to radiation from nuclear testing and uranium mining.

(b) ATTORNEY'S OBLIGATION.—It shall be the ethical obligation of any attorney who is consulted by an individual with respect to injury or death resulting from exposure to radiation from nuclear testing or uranium mining to advise such individual that compensation may be available under the program for such injury or death.

SEC. 2144. PETITIONS FOR COMPENSATION.

(a) GENERAL RULE.—

(1) INITIATION.—A proceeding for compensation under the Program for injury or death resulting from exposure to radiation from nuclear testing or uranium mining shall be initiated by service upon the Secretary and the filing of a petition containing the matter required by subsection (c) with the United States Claims Court.

(2) PAYMENT IN FULL SETTLEMENT OF CLAIMS AGAINST THE UNITED STATES.—The acceptance by an individual of payment under this section shall be in full settlement of all claims of, or on behalf of, that individual against the United States or against any person with respect to the performance of a contract with the United States that may arise out of the exposure of the individual to radiation as described in subsection (c).

(b) PETITIONERS.—

(1) FILING OF PETITION.—Any individual, including a member of an Indian tribe, who has sustained an injury resulting from exposure to radiation from nuclear testing or uranium mining, the legal representative of such individual (as determined appropriate under State law) if such individual is a minor or is disabled, or the legal representative of any individual who died as the result of such exposure, if the individual meets the requirements of subsection (c)(1), may file a petition for compensation under the Program.

(2) LIMITATION ON NUMBER.—An individual may file only one petition under this subtitle.

(c) PETITION CONTENT.—A petition for compensation under the Program for an injury or death resulting from exposure to radiation from nuclear testing or uranium mining shall contain—

(1) an affidavit, and supporting documentation, demonstrating that the individual who suffered such injury or who died—

(A)(i) resided in the affected area, as defined in section 2151, for a period of at least 1 year during the period beginning on January 21, 1951, and ending on October 31, 1958,

or resided in the affected area during the period beginning on June 30, 1962, and ending on July 31, 1962; and

(ii) contracted a disease as described in the Radiation Compensation Table in section 2147, resulting in personal injury or death; or

(B)(i) was employed in a uranium mine located in Colorado, New Mexico, Arizona, or Utah during the period beginning January 1, 1947, and ending on December 31, 1971;

(ii) was exposed to 200 or more working level months of radiation as defined by the Secretary; and

(iii) developed lung cancer or other serious respiratory diseases as defined by the Secretary; and

(2) all available relevant medical records (including autopsy reports, if any) relating to the individual who suffered such injury or who died from the exposure to radiation from nuclear testing or uranium mining and an identification of any unavailable records known to the petitioner and the reasons for their unavailability.

(d) SPECIAL MASTER.—The clerk of the United States Claims Court shall immediately forward the filed petition to the chief special master for assignment to a special master under section 2145(c)(1).

SEC. 2145. COURT JURISDICTION.

(a) GENERAL RULE.—The United States Claims Court special masters shall, in accordance with this section, have jurisdiction—

(1) over proceedings to determine if a petitioner under section 2144 is entitled to compensation under the Program; and

(2) to issue and enforce such orders as the court determines necessary to assure the prompt payment of any compensation awarded.

(b) PARTIES.—

(1) SECRETARY.—The Secretary shall be named as the respondent and shall participate in all proceedings brought by the filing of a petition under section 2144(b). Except as provided in paragraph (2), no other individual may intervene in any such proceeding.

(2) NOTICE OF FILING.—Not later than 30 days after the Secretary receives service of any petition filed under section 2144 the Secretary shall publish notice of such petition in the Federal Register. The special master designated with respect to such petition under subsection (c) shall afford all interested individuals an opportunity to submit relevant, written information—

(A) relating to the existence of the evidence described in section 2144(c)(1)(A); or

(B) relating to any allegation in a petition with respect to the matters described in section 2144(c)(1)(B).

(c) ADDITIONAL SPECIAL MASTER.—

(1) IN GENERAL.—The United States Claims Court shall designate a special master who shall hear cases in the 10th circuit of the United States during the pendency of cases under this subtitle, but in no event later than 4 years after the date of enactment of this subtitle. The provisions of section 2112(c)(2) shall apply to the special master designated under this subsection.

(2) REPORTS.—The special master designated under paragraph (1) shall prepare and submit annually, to the appropriate Committees of Congress and the judges of the United States Claims Court, a report concerning the number of petitions filed under section 2144 and their disposition, the dates on which the injuries and deaths resulting from exposure to radiation from nuclear testing or uranium mining for which the petitions were filed occurred, the types and amounts of awards, the length of time for the disposition of petitions, the cost of administering the Program, and recommendations for changes in the Program.

(d) PROCEDURES.—The provisions of subsections (d) and (e) of section 2112 shall apply to petitions filed under this subtitle.

SEC. 2146. DETERMINATION OF ELIGIBILITY AND COMPENSATION.

(a) GENERAL RULE.—Compensation shall be awarded under the Program to a petitioner if the special master finds on the record as a whole that the petitioner has shown the matters required in the petition required under section 2144(c)(1).

(b) RECORD DEFINED.—For purposes of this section, the term "record" means the record established by the United States Claims Court in a proceeding on a petition filed under section 2144.

SEC. 2147. RADIATION COMPENSATION TABLE.

The following is a table of injuries or specified diseases resulting from exposure to radiation from nuclear testing for purposes of receiving compensation under the Program:

RADIATION COMPENSATION TABLE

I. "Leukemia (other than chronic lymphocytotic leukemia).
II. "Multiple myeloma.
III. "Cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated).

SEC. 2148. COMPENSATION.

(a) CLAIMS RELATING TO NUCLEAR TESTING.—Compensation awarded under the Program to a petitioner under section 2144 for an injury resulting from exposure to radiation from nuclear testing shall be limited to funds provided under section 2148(f) and shall be in the amount of $50,000, or to the petitioners who are the heirs of such an individual in the amount of $50,000 on behalf of the estate of such deceased individual.

(b) CLAIMS RELATING TO URANIUM MINING.—Compensation awarded under the Program to a petitioner under section 2144 for an injury resulting from exposure to radiation from uranium mining shall be limited to funds provided under section 2148(f) and shall be in the amount of $100,000, or to the petitioners who are the heirs of such an individual in the amount of $100,000 on behalf of the estate of such deceased individual.

(c) ATTORNEYS' FEES.—Any attorneys' fees awarded under this subtitle shall be paid out of the trust fund, and no attorney who renders services in connection with each claim shall receive less than reasonable attorneys' fees and costs nor more than an amount that exceeds 20 percent of the amount paid under such claim, any contract to the contrary notwithstanding. Any attorney who violates the provisions of this subsection shall be fined a sum not to exceed $5,000.

(d) PAYMENT OF COMPENSATION.—

(1) LUMP SUM.—Compensation described in subsections (a), (b), or (c) shall be paid in total in a lump sum not later than 30 days after the date of the judgment of the United States Claims Court under section 2145 awarding the compensation.

(2) PROHIBITION ON TAXATION.—Payment of compensation under this subtitle shall not be subject to the provisions of the Internal Revenue Code of 1986, or any other provision of law.

(e) INSURANCE CLAIMS.—An award made in accordance with this subtitle shall not be considered as any form of compensation or reimbursement for a loss for purposes of imposing liability on any individual receiving such an award, on the basis of such receipt, to repay any insurance carrier. An award or a claim to which this subtitle applies shall not affect any claim against an insurance carrier.

(f) TRUST FUND.—

(1) ESTABLISHMENT.—There shall be established in the Treasury of the United States, a trust fund to be known as the "Atmospheric Nuclear Testing Compensation Trust Fund" that shall be administered by the Secretary, and shall consist of—

(A) the sum of $100,000,000, appropriated to the Fund under paragraph (5); and

(B) any amount credited to such Fund under any other provision of law.

(2) INVESTING OF FUNDS.—Amounts in the Fund shall be invested in accordance with section 9702 of title 31, United States Code and any interest on, and proceeds from any such investment shall be credited to and become a part of such Fund.

(3) DISBURSEMENT.—Amounts in the Fund shall be available only for disbursement in accordance with this subtitle.

(4) TERMINATION.—The Fund shall terminate not later than the earlier of the date on which an amount has been expended from the Fund which is equal to the amount authorized to be appropriated to the Fund under paragraph (5), and any income earned on such amount, or 20 years after the date of the enactment of this subtitle. If all of the amounts in the Fund have not been expended by the end of such 20-year period, investments of amounts in the Fund shall be liquidated and receipts thereof deposited in the Fund and all funds remaining in the Fund shall be deposited in the miscellaneous receipts account in the Treasury.

(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Fund $100,000,000. Any amounts appropriated pursuant to this section shall remain available until expended.

(6) For administering this subtitle, there is authorized to be appropriated from the trust fund such sums as may be necessary in each fiscal year until the termination of the trust fund.

SEC. 2149. TIME FOR FILING OF CLAIMS.

A claim to which this subtitle applies shall be barred unless the claim is filed—

(1) not later than 2 years after the date of the enactment of this subtitle; or

(2) not later than 2 years after the date on which the specified disease resulting from exposure to radiation from nuclear testing or uranium mining is discovered.

SEC. 2150. SEVERABILITY

If any provision of this subtitle or the application thereof to any individual or circumstance is held invalid, the remainder of the subtitle shall not be affected thereby.

SEC. 2151. DEFINITIONS.

As used in this subtitle:

(1) AFFECTED AREA.—The term "affected area" means—

(A) in the State of Utah, the counties of Washington, Iron, Kane, Garfield, Sevier, Beaver, Millard, and Piute;

(B) in the State of Nevada, the counties of White Pine, Nye, Lander, and Lincoln; and

(C) that part of Arizona that is north of the Grand Canyon and west of the Colorado River

(2) INDIAN TRIBE.—The term "Indian tribe" means any Indian tribe, band, nation, pueblo, or other organized group or community, that is recognized as eligible for special programs and services provided by the United States to Indian tribes because of their status as Indians.

(3) LEGAL REPRESENTATIVE.—The term "legal representative" means a parent or an individual who qualifies as a legal guardian under State law.

(4) PROGRAM.—The term "Program" means the National Atmospheric Nuclear Testing Compensation Program established under section 2143.

(5) TRUST FUND.—The term "trust fund" or "fund" means the Atmospheric Nuclear Testing Compensation Trust Funds established in section 2148(f).

(6) SPECIFIED DISEASE.—The term "specified disease" means leukemia (other than chronic lymphatic leukemia), multiple myeloma, and cancers of the thyroid, lung, female breast, stomach, colon, esophagus, urinary tract, pharynx, pancreas, small intestine, bile ducts, gall bladder, and liver (except if cirrhosis or hepatitis B is indicated).

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